STRUNA, Albert, prof.ing.

"Introduction to lubrication" by G.H.Göttner. Vol. 1: "Methods for the reduction of friction and wear." Reviewed by A.Struna. Stroj vest 8 no.1/2:31 Ap '62.

1. Clan Urednistva, "Strojniski vestnik."

STRUNA, Albert, prof.inz.

"Theory and practice of lubrication for engineers" by D.D.Fuller. Reviewed by A.Struna. Stroj vest 8 no.1/2:33 Ap '62.

1. Clan Urednistva, "Strojniski vestnik."

STRUNA, Albert, prof.inz.

"Electric equipment of motor vehicles." Reviewed by A.Struna.
Stroj vest 8 no.1/2:34 Ap '62.

1. Clan Urednistva, "Strojniski vestnik."

KRAUT, Bojan, prof. inz. (Ljubljana); LESKOVAR, P.; STRUNA, Albert, prof. inz. (Ljubljana); HLEBANJA, J.; SELJAK, Z.; PRELOG, E.; PECORNIK, Miroslav, inz. (Ljubljana); OPRESNIK, M.

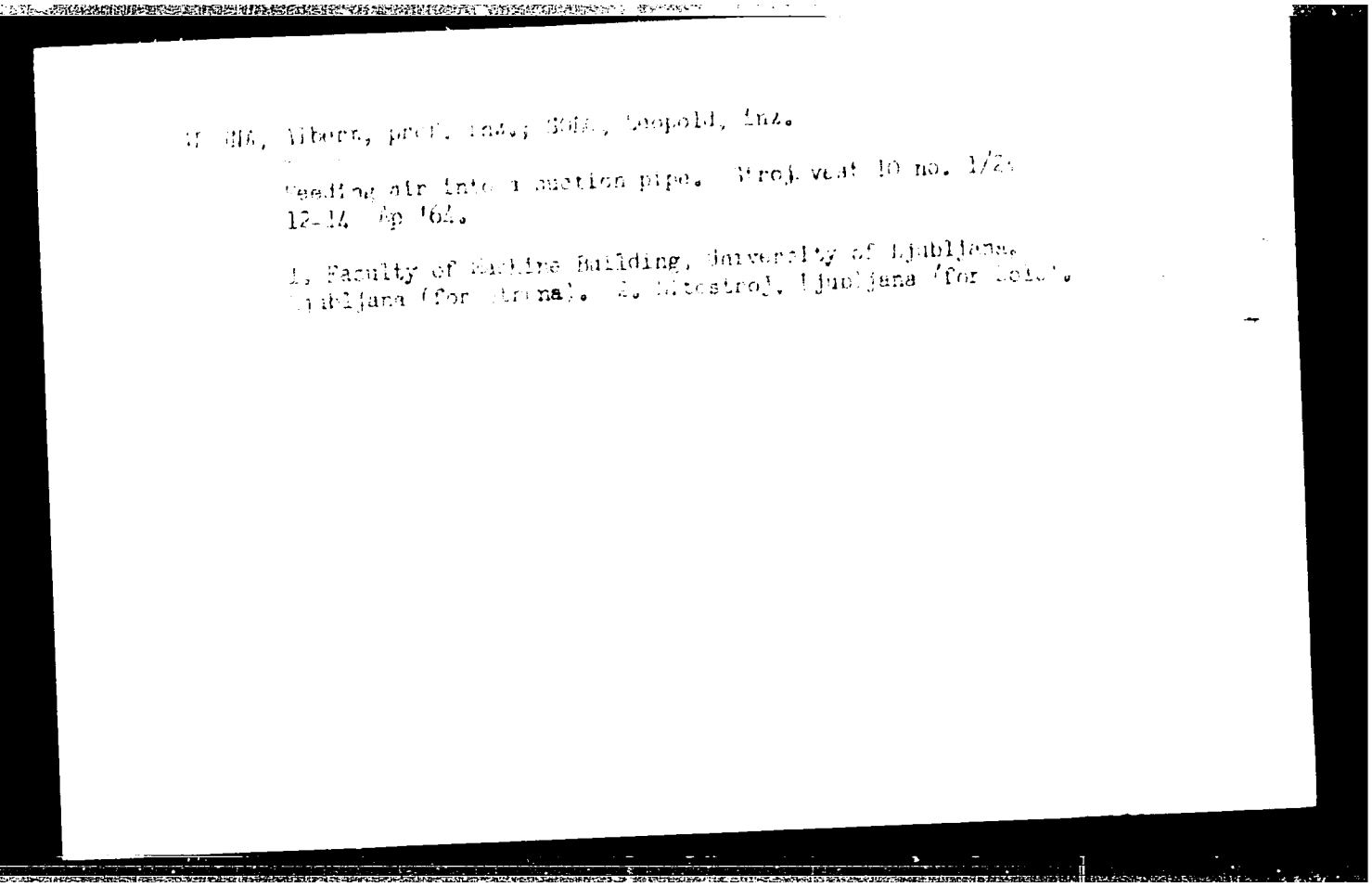
Book reviews. Stroj vest 8 no.6:170-172 D '62.

1. Glavni in odgovorni urednik, "Strojniski vestnik" (for Kraut).
2. Clan Urednistva, "Strojniski vestnik" (for Pecornik).

STRUNA, Albert, prof. inz. (Ljubljana)

"Lubrication practice" by Paul Tamm and Wilhalm Ulms. Reviewed by A. Struna. Stroj vest 9 no.4/5:133 O '63.

1. Clan Uredništva, "Strojniski vestnik".



STRUNA, Albert, prof. inz.

Elaboration of terminological dictionaries has become more and more pressing. Nova proizv 15 no.1/2:99 '64.

STRUNA, Lavoslav

"General technical dictionary." Pt.1. Reviewed by Lavpslav Struna.
Stroj vest 8 no.6:168 D '62.

H

CZECHOSLOVAKIA/Chemical Technology. Chemical Products and Their Application. Fermentation Industry.

Abs Jour: Ref Zhur-Khim., No 13, 1958, 44841.

Author : Strunc Jiri.
Inst :
Title : Computations in the Production of Dessert Wines.

Orig Pub: Kvasny prumysl, 1956, 2, No 1, 10-12.

Abstract: Formulas are given for the calculation of the amounts of sugar and alcohol that are added to the wine in the production of dessert wines.

Card : 1/1

URSU, I.; STRUNGARU, D.; PIRINGER, O.; PALADI, M.

Poisoning the active platinum catalyst with hydrogen during the reaction time of water-hydrogen isotopic exchange. Studii cerc fiz 16 no.7:721-726 '64.

1. Corresponding Member of the Rumanian Academy (for Ursu). 2. Institute of Nuclear Physics, Sub Filiala, Cluj, and the Chair of Electricity and Magnetism, Cluj University (for Strungaru, Piringer, Paladi).

[illegible], H.; STRUNGARU, Gr.; BOLIOR, O.; DRAGHICI, I.

Specificity of the biological form of matter motion and its connections with the physicochemical processes of the living organism. Trav Muz Nat 4:9-46 '63.

STRUNGARU, G

V-10

RUMANIA/Human and Animal Physiology - The Nervous System.

Abs Jour : Ref Zhur - Biol., No 2, 1958, 9073

Author : C. Giurgea, E. Stoica and Gr. Strungaru
Inst : -
Title : The Spatial Involvement of Cortical Structures in Experimental Neurosis in Relation to Cortical Tonus.

Orig Pub : Studii si cercetari fiziol. Acad. RPR, 1956, 1, No 3-4, 347-379

Abstract : In one chamber a stereotype of conditioned salivary reflexes was produced in dogs, while in another, in which free locomotion was possible, a stereotype of conditioned motor reflexes was produced. When neurosis developed as a result of overtaxing the excitatory processes in producing the conditioned salivary reflexes, changes in the motor stereotype were not observed. When neurosis developed in the chamber in which the conditioned motor reflexes were produced, the conditioned salivary reflexes

Card 1/2

Card 2/2

RUMANIA/Human and Animal Physiology (Normal and Pathological). T
Nervous System. Higher Nervous Activity. Behavior.

Abs Jour: Ref Zhur-Biol., No 17, 1958, 80045.

Author : Zuckermann, A.; Stoica, E.; Strungaru, Gr.
Inst :
Title : Change of Food Excitability Depending on Cortical Tonus.

Orig Pub: Studii si cercetari fiziol. Acad. RPR, 1956, 1, No 3-4, 431-440.

Abstract: A stereotype of conditioned salivary reflexes with food reinforcement and a stereotype of motor reflexes were formed in 5 dogs. Normal food weight did not impair the excitability of the food center, if the motor activity of the animal prevented the experience

Card : 1/2

RUMANIA/Human and Animal Physiology. The Nervous System. V

Abs Jour: Ref. Zhur-Biol., No 6, 1958, 27428.

Author : C. Giurgea, Gr. Strungaru and E. Dumitrescu
Inst :
Title : Regulation of the Level of Excitatory and Inhibitory Processes in Relation to Changes in the Tone of the Cerebral Cortex.

Orig Pub: Fiziol. norm. si patol., 1956, 3, No 5, 529-540.

Abstract: In dogs the limit of the strength of the excitatory process was higher when the threshold of excitation was determined under conditions in which free motor movement was possible than in experiments carried out in a chamber in which movement was restricted. Under these conditions

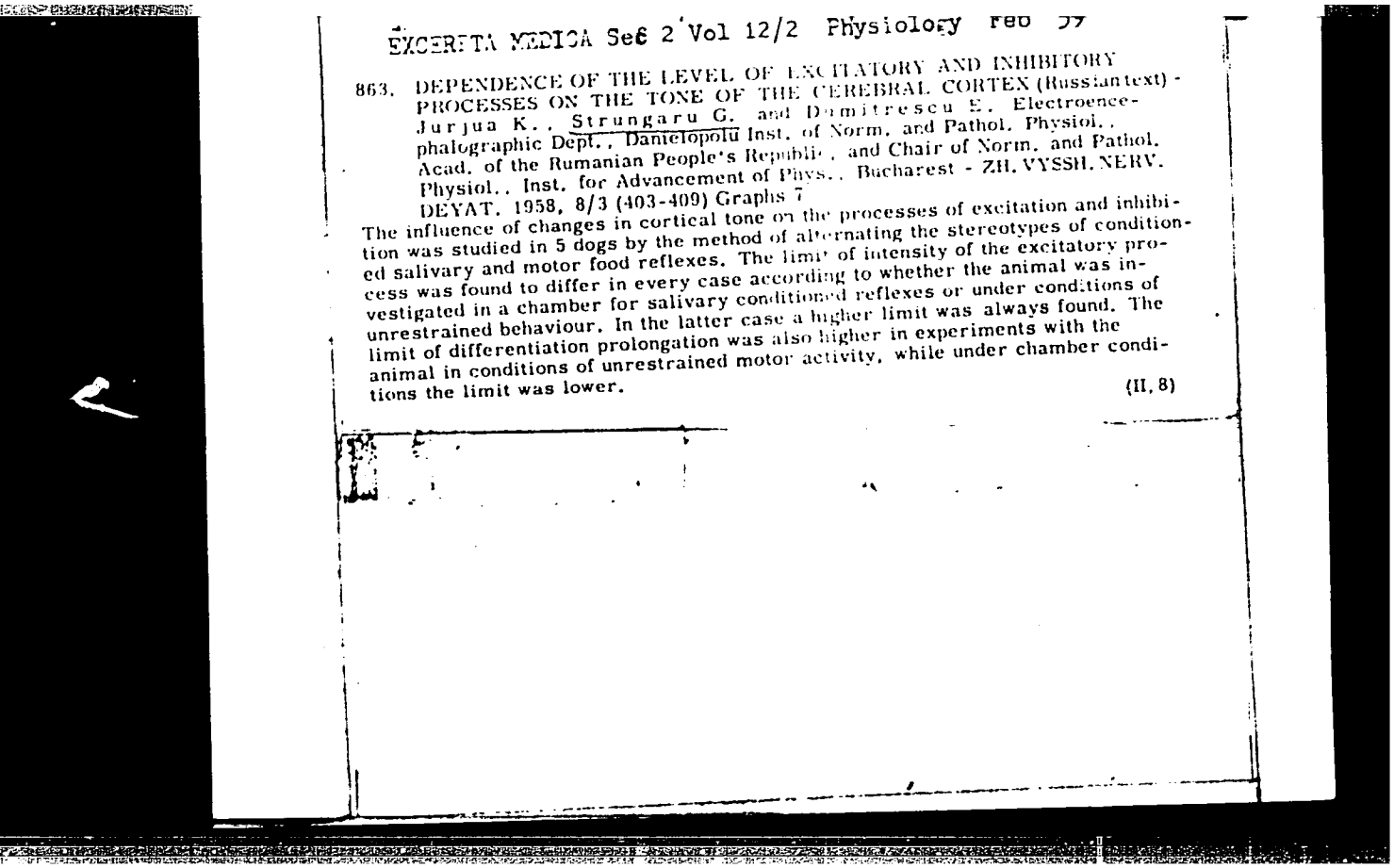
Card : 1/2

RUMANIA/Human and Animal Physiology. The Nervous System. V

Abs Jour: Ref. Zhur-Biol., No 6, 1958, 27428.

the limit of prolongation of differentiation was also higher.

Card : 2/2



EXCERPTA MEDICA Sec 2 Vol 12/2 Physiology Feb 59

863. DEPENDENCE OF THE LEVEL OF EXCITATORY AND INHIBITORY PROCESSES ON THE TONE OF THE CEREBRAL CORTEX (Russian text) - Jurjua K., Strungaru G. and Dumitrescu E. Electroencephalographic Dept., Danielopolu Inst. of Norm. and Pathol. Physiol., Acad. of the Rumanian People's Republic, and Chair of Norm. and Pathol. Physiol., Inst. for Advancement of Phys., Bucharest - ZH. VYSSH. NERV. DEYAT. 1958, 8/3 (403-409) Graphs 7

The influence of changes in cortical tone on the processes of excitation and inhibition was studied in 5 dogs by the method of alternating the stereotypes of conditioned salivary and motor food reflexes. The limit of intensity of the excitatory process was found to differ in every case according to whether the animal was investigated in a chamber for salivary conditioned reflexes or under conditions of unrestrained behaviour. In the latter case a higher limit was always found. The limit of differentiation prolongation was also higher in experiments with the animal in conditions of unrestrained motor activity, while under chamber conditions the limit was lower.

(II, 8)

DZHURDZHEA, K. [Georgea, K.]; STRUNGARU, G.

Role of cerebrocortical tonus in alleviating retarding inhibition [with summary in English]. Zhur.vys.nerv.deiat. 9 no.1:78-84 Ja-F '59. (MIRA 12:3)

1. Danielepolu Institute of Normal and Pathological Physiology, Academy of Rumanian People's Republic, and Chair of Normal and Pathological Physiology, Institute for the Advanced Training of Physicians, Bukharest.

(REFLEX, CONDITIONED,
eff. of cortical tonus in alleviating retarding inhib. (Rus))

CRAINICEANU, Al.: COVASNEANU, Zenobia; STRUNGARU, Gr.; SUCMANSCHI, Maria

Action of insulin upon the cholinesterase and the muscular reactivity. Studii cerc fiziol 5 no.2:405-409 '60. (EEAI 10:2)

1. Institutul de fiziologie normala si patologica "Prof. Dr. D.Danielopolu" al Academiei R.P.R.
(INSULIN) (CHOLINESTERASES) (MUSCLES)

STRUNGARU, Gr. (Bucuresti)

Recent progress in neurophysiology. Natura Biologie 14 no.3:39-48 My-Je '62.

STRUNGARU, Gr. Lector; VASILESCU, Eugen, Asistent (Bucuresti)

Animal physiology studies in Rumania. Natura Biologie 16 no.4: 27-34 Jl-Ag '64

APOSTOL, Gh.; STRUNGARU, Gr.

A new technique of implanting subcortical, cortical, and [illegible] electrodes in rabbits. Studii cerc biol s. z[illegible] n.6:[illegible] '64.

1. Laboratory of Animal Physiology of the "Traian Savulescu" Institute of Biology.

STRUNGARU, I.G.; ARNET, L.

Session of the Circle of General and Applied Biochemistry, Biochemical Institute of the Rumanian Academy, and the Chair of Biochemistry, University of Bucharest; April 26, 1962. Studii cerc biochimie 5 no.3:475-476 '62.

1. Facultatea de stiinte naturale, Bucuresti (for Strungaru).
2. Institutul de biochimie, Bucuresti (for Arnet).

STRUNGE, B.N.

AVRUNIN, A.G.; ARINKIN, V.V.; ANDREYEV, N.N; STRUNGE, B.N.; SHMIDT, M.M.; SEDOV, V.M., inzhener, retsenzent; MORGULIS, Yu.B., kandidat tekhnicheskikh nauk redaktor; PETROV, G.I., inzhener, zaveduyushchiy redaktsiyey; MATVEYEVA, Ye.N., tekhnicheskiy redaktor

[The D50 series locomotive and marine engines] Teplovoznye i sudovye dvigateli D50; konstruktsiia, ekspluatataiia, razborka, sborka i regulirovka. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1952. 269 p. [Microfilm] (MLRA 7:10)
(Diesel engines)

STRUNGE, B.N., inzhener; ASEYEW, Ye.N., inzhener.

Powerful engine for main line diesel locomotives. Zhel.dor.transp. 39 no.8:36-40 Ag '57. (MLRA 10:9)
(Diesel locomotives)

AVRUNIN, Abram Grigor'yevich; ARINKIN, Viktor Vasil'yevich; MUL'MAN, Boris Yefimovich; STRUNGE, Boris Nikolayevich; MORGULIS, Yu.B., kand. tekhn.nauk, retsenzent; MELEYEV, A.S., inzh., red.; GERASIMOVA, Ye.S., tekhn.red.; SOKOLOVA, T.F., tekhn.red.

[D 100 diesel engine] Dizel' D100. Moskva, Gos.nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1958. 325 p. (MIRA 11:7)
(Diesel engines)

STRUNGE, B.N.

Construction and operation of centrifugal oil filters for T3 diesel locomotives. Elek. i tepl. tiaga 3 no.3:44-45 Mr '59. (MIRA 12:5)

1.Glavnyy konstruktor po dizelestroyeniyu Khar'kovskogo zavoda.
(Diesel locomotives—Oil filters)

STRUNGE, B.N., inzh.; SIMENKO, N.P., inzh.; SIMSON, A.E., kand.tekhn.nauk

Testing the new 9D100 high-duty diesel engine. Energomashinostroenie 5 no.1:42-44 Ja '59. (MIRA 12:2)
(Diesel engines--Testing)

SIMSON, A.E.; SINENKO, N.P.; MALYAROV, F.M.; STRUNGE, B.N.; SUKHOMLINOV, R.M.; GRINSBERG, F.G.; PIRIN, I.V., kand.tekhn.nauk, retsenzent; BASENTSYAN, A.A., inzh., red.; UVAROVA, A.F., tekhn.red.; GORDEYEVA, L.P., tekhn.red.

[Testing D 100-type locomotive and marine diesel engines] Ispytaniia teplovoznykh i sudovykh dizelei tipa D100. Moskva, Gos. nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1960. 263 p. (MIRA 13:12)

(Marine diesel engines--Testing)
(Diesel locomotives--Testing)

STRUNGE, B.N. i ZHEBROVSKIY, A.F., konstruktor

6D100 engine for diesel locomotives. Elek. i topl. tiaga 4 no.11: 29-31 N '60. (MIRA 13:12)

1. Glavnyy konstruktor po dizelestroyeniyu Khar'kovskogo zavoda transportnogo mashinostroyeniya (for Strunge).
(Diesel engines) (Diesel locomotives)

STRUNGE, B.N., inzh. (g.Khar'kov); MATS, Z.Z., inzh. (g.Khar'kov)

Increasing the economic efficiency of 2D100 diesel locomotive motors. Zhel.dor.transp. 42 no.6:42-43 Je '60. (MIRA 13:7)
(Diesel locomotives)

STRUNGE, Boris Nikolayevich; MUL'MAN, Boris Yefimovich; EPSHTEYN, Abram Semenovich; GUREVICH, A.N., kand. tekhn. nauk, retsenzent; SMIRNOVA, V.L., red. izd-va; EL'KIND, V.D., tekhn. red.

[Design of locomotive and marine engines abroad] Konstruktsii zarubezhnykh teplovoznykh i sudovykh dvigatelei. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1961. 299 p. (MIRA 14:11)

(Diesel locomotives) (Marine diesel engines)

L 8659-65 EPA/EPF(n)-2/EPR/T-2/EPA(bb)-2/EWP(f) Paa-4/Ps-4 AEDC(b) WW

ACCESSION NR: AT3002334 S/2929/62/000/003/0125/0131 B

AUTHOR: Strunge, B. N. (Engineer); Zhebrovskiy, A. F. (Engineer)

TITLE: The new locomotive diesel 6D100

SOURCE: Teplovozny*ye i sudovy*ye dvigateli, no. 3, Moscow, Mashgiz, 1962, 125-131

TOPIC TAGS: diesel engine, locomotive, gas turbine supercharger, fuel consumption

ABSTRACT: A new 8-cylinder, 2000 hp, type 6D100 diesel engine has been designed at the Khar'kovskiy Zavod im. Maly*shev (Maly*shev Plant in Khar'kov), based on the production model 2D100 (using 85-90% production parts and assemblies) and with operation derived from that of the type 9D100, a 3000 hp, 12-cylinder engine with fuel consumption of 160 +5 g/bhp-hour; it was designed for modernizing the TE30 locomotive. Comparative data are given to demonstrate the decreased weight, size, relative fuel consumption and thermal stress of the motor. In increasing the cylinder-power to 250 bhp, the excess air is increased from 1.83 to 2.15. With this and air-air cooling, the supercharged air being cooled from 102 to 70C, the pressures during the expansion cycle are lower than in the 2D100 and the ignition pressure is 90-95 kg/cm^2, almost the same as in the 2D100 diesel engine. There is 2-stage gas-turbine supercharging, consisting of 2 parallel-operating

Card 1/2

L 8659-65
ACCESSION NR: AT3002334

automatic turbo-superchargers followed by a centrifugal blower, driven by a reducer from the overhead crankshaft. Comparative parameters of the 2D100 and 4D100 are tabulated. Unification of the design of types 9D100, 10D100 and 6D100 is outlined. Energy derived from expansion of the spent gases in a gas turbine gives a saving of 180 hp, thereby improving fuel consumption. The turbo-blowers are water-cooled and the compressed air fed to the cylinders is cooled to 70C by air-air coolers, saving 325 kg of copper piping. Reliable operation with high-sulfur fuels was checked by a 110,000 km run. Each of the design improvements is then briefly discussed. The overall weight reduction for the 6D100 as against the 2D100 is given as 4500 kg. Orig. art. has: 3 tables and 1 figure.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: PR

NO REF SOV: 000 OTHER: 000

Card 2/2

S/081/62/000/005/085/112
B162/B101

11970

AUTHORS: Strunge, B. N., Sinenko, N. P.

TITLE: Testing additives in oils on the 2D100 engine of a diesel locomotive operating on sulfur fuel

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 5, 1962, 529, abstract 5M220 (Sb. "Prisadki k maslam i toplivam". M., Gostoptekhizdat, 1961, 323-329)

TEXT: Results of 600-hr bench tests, on the 2 100 (2D100) diesel engine, of additives in [illegible]-11 (DS-11) oil from sulfur petroleum, using fuels with S-content of 1.2; 1, and 0.3%, the latter fuel being hydro-cleansed. During operation on the fuel with 1.2% S, tests were made of the additives [illegible]-360 (Vnii NP-360) in concentrations of 6 and 14%, [illegible]-8 (AzNII-8) at 8%, and Vnii NP-360 in combination with 0.2% added Zn naphthenate in the fuel; the most effective in respect of cleansing properties were Vnii NP-360 in a concentration of 14% and, in respect of antiwear properties, Vnii NP-360 in a concentration of 6%; the addition

Card 1/2

Testing additives in oils ...

of Zn naphthenate to the fuel increased the quantity of deposits in the engine. During operation on the fuel with 1% S tests were made of the additives Vnii NP-360 at a concentration of 8% -22 (IP-22) at 8 and 13.75% (PMS_A) at 8% together with -354 (Vnii NP-354) at 2%. -1 (BFK-1) at 6%; the most effective was Vnii NP-360. Satisfactory results were obtained in the tests on the additive Tsiatim-339 at a concentration of 3% (-11 (DSp-11) oil) on fuel with 0.33% S, but when the diesel engines were operating on DSp-11 oil mass failure of the bushes of the connecting rod bearings, as a result of chipping of the babbitt, was found. Abstracter's note; Complete translation.

Card 2/2

ARTIZANOV, Ye.A., inzh.; DORFMAN, Yu.I., inzh.; ZASLAVSKIY, Ye.G., inzh.; KUSHNER, B.I., inzh.; PLUTSNER-SARNO, Yu.N., inzh.; SMOL'YANINOV, A.Ye., inzh.; SPIVAK, Ya.L., inzh.; STRUNGE, B.N., inzh., EPSHTEYN, A.S., inzh.; SAZONOV, A.G., inzh., red.; USENKO, L.A., tekhn. red.

[The TE10 diesel freight locomotive] Gruzovoi teplovoz TE10. Moskva, Transzheldorizdat, 1962. 171 p. (MIRA 15:10)
(Diesel locomotives)

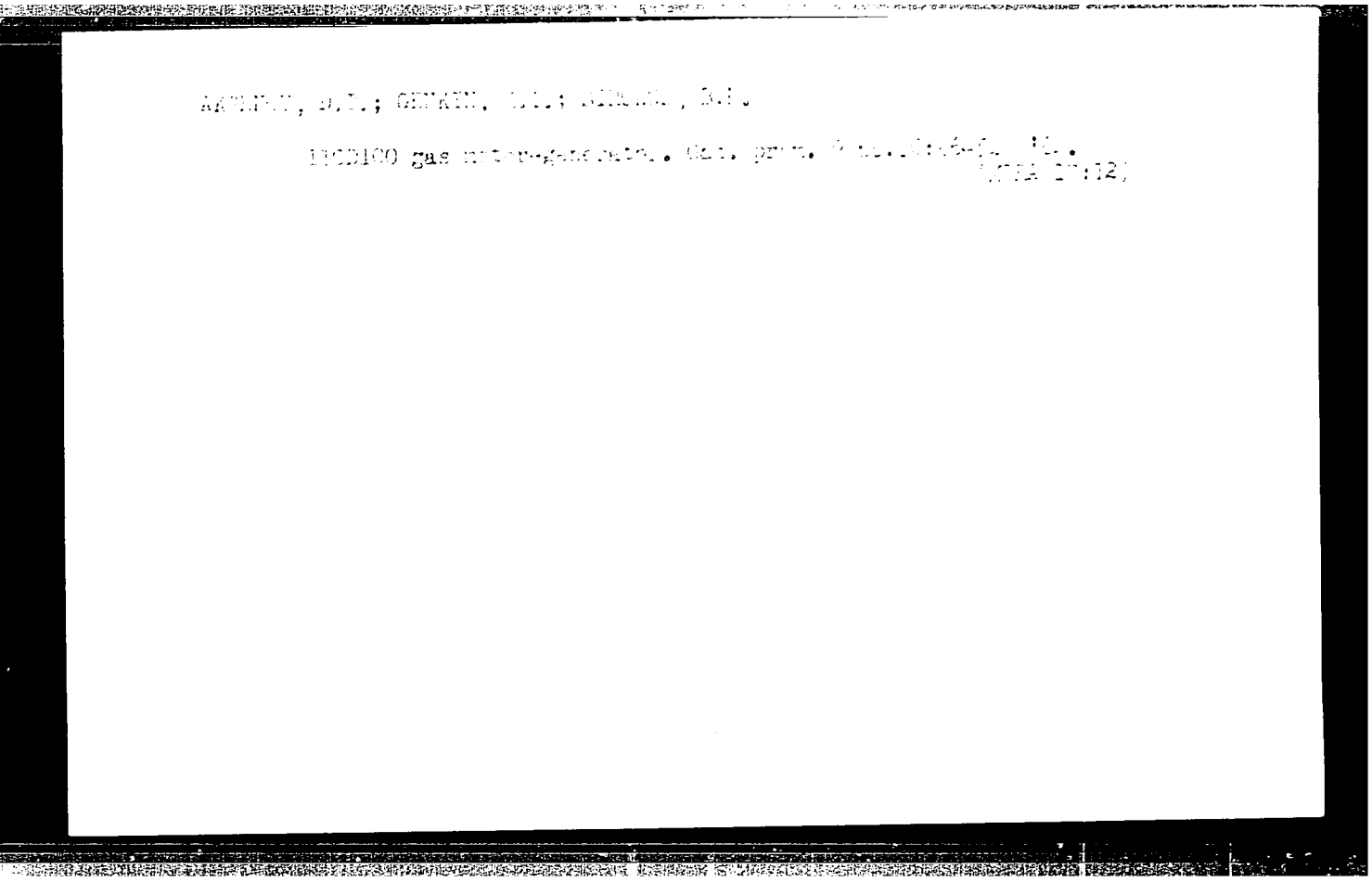
STRUNGE B.N., inzh., ZHEKHOVSKIY, A.F., inzh.

A new 6D100 diesel locomotive engine. Teplovoz.i sud.dvig. no.3:25-31 '62. (MIRA 16:2)
(Diesel locomotives) (Diesel engines)

GLAGOLEV, N.M., prof.; STRUNGE, B.N.

Letter to the editor. Vest. mashinostr. 43 no.6:43 Je '63.
(MIRA 16:7)

1. Zaveduyushchiy kafedroy dvigateley vnutrennego sgoraniya Khar'kovskogo politekhnicheskogo instituta imeni Lenina (for Glagolev). 2. Glavnyy konstruktor Khar'kovskogo zavoda transportnogo mashinostroyeniya imeni V.A. Malysheva (for Strunge).
(Internal combustion engines)



L 14452-66 EWP(f)/EPF(n)-2/T-2/ETC(m)-6 WW
ACC NR: AP6002952 (A) SOURCE CODE: UR/0286/65/000/024/0124/0124

INVENTOR: Strunge, B. N.; Belostotskiy, A. M.; Pesotskiy, V. Yu.; Lubchenko, M. I.; Turchak, Ye. V.; Epshteyn, A. V.

56
B
23,4455

ORG: none

TITLE: A device for improving the pickup of a diesel generator with gas turbine supercharging. Class 46, No. 177227 [announced by the Kharkov Plant of Transportational Machine Building im. V. A. Malyshev (Khar'kovskiy zavod transportnogo mashinostroyeniya)]

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 24, 1965, 124

TOPIC TAGS: generator, diesel engine, gas turbine

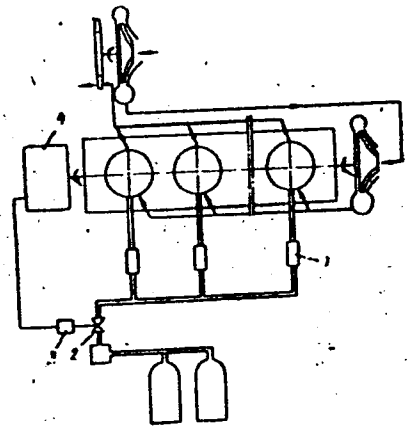
ABSTRACT: This Author's Certificate introduces a device for improving the pickup of a diesel generator with gas turbine supercharging. The device contains a mechanism for supplying additional air to the diesel cylinders from stand-by tanks. Operational reliability is improved by automatic valves mounted on each cylinder. The supply mechanism is made in the form of a valve with a controller which is operated by pulses from the generator.

Card 1/2 UDC: 621.436.052-443.2

2

L 14452-66

ACC NR: AP6002952



1 - automatic valve; 2 - gate valve; 3 - controller; 4 - generator.

SUB CODE: 21/

SUBM DATE: 01Aug64

BVK

Card 2/2

ACC NR: AM6032613 (A,N) Monograph UR/

Strunge, Boris Nikolayevich; Revva, Leonid Dorofeyevich; Raskin, Veniamin Geselevich; Epshteyn, Abram Semenovich

D100 automated high-power diesel generators (Avtomatizirovannyye dizel'-generatory bol'shoy moshchnosti tipa D100) Moscow. Izd-vo "Mashinostroyeniye", 1966. 259 p. illus., biblio. 1800 copies printed.

TOPIC TAGS: diesel engine, marine engineering, generator, electric generator, electric generator unit, automation, automation equipment/D100 diesel generator

PURPOSE AND COVERAGE: This book is intended for technical and engineering workers engaged in the planning and operation of stationary and shipboard automated diesel generators. The book discusses the principles and methods of automating the control, servicing, emergency-warning signalling, and the protection of high powered, type D100 stationary and shipboard diesel generators. Technical characteristics are presented, and domestic systems of automation, remote control, emergency-warning signalling, and the protection of diesel generators are described. The peculiarities of automation systems, their electrical diagrams, and the design of separate elements of the devices for monitoring these systems are examined. Recommendations are given for the installation, check-out, and operation of automated diesel generators. There are 14 references, all Soviet.

TABLE OF CONTENTS (Abridged)

Card 1/2 UDC: 621.[illegible]

ACC NR: AM6032613

Foreword -- 3

Introduction -- 5

Ch. I. Automated stationary and shipboard diesel generators -- 9
Ch. II. Development of automated diesel generators -- 43
Ch. III. Automatic devices, monitoring devices, and their arrangement in units -- 54
Ch. IV. Design specifications and technical characteristics of diesel generators -- 101
Ch. V. Test stands -- 168
Ch. VI. Testing automated diesel generators -- 185
Ch. VII. Particulars on the operation of automated diesel generators -- 236
Ch. VIII. Particulars on the operation of automated diesel generators -- 247

References -- 258

SUB CODE: 13/ SUBM DATE: 31Mar66/ ORIG REF: 014/

Card 2/2

L 08686-67 EWP(k)/EWT(l)/EWT(m)/EWP(w)/EWP(f)/EWP(v) IJP(c) EM/WW/JD
ACC NR: AP6032187 SOURCE CODE: UR/0096/66/000/010/0070/0072

AUTHOR: Klyuchnikov, G. M. (Engineer; Dissertant); Strunkin, V. A. (Candidate of technical sciences) 44

ORG: Kazan Aviation Institute (Kazanskiy aviatsionnyy institut)

TITLE: Investigating the degree-of-reaction effect on the working cycle of a turbine stage

SOURCE: Teploenergetika, no. 10, 1966, 70-72

TOPIC TAGS: gas turbine engine, turbine stage, turbine design, turbine stage efficiency

ABSTRACT: An experimental analysis of the effectiveness of gas turbine stages with cylindrical and twisted rotor blades is presented for various degrees of reaction, as well as with suction of air through the axial root-clearance gap. Tests of five turbine stages were performed on an experimental air turbine under following conditions at the mean blade diameter: pressure ratio 1.4; temperature 360—390K; Mach number M 0.6—0.7; and Reynolds number Re $(6—7)10^5$. The mean values of the degrees of reaction ρ and of the outlet angles β_2 of the rotor were: stages 1 and 4: $\rho = 0.25$; $\beta_2 = 24^\circ$; stages 3 and 5: $\rho = 0$; $\beta_2 = 32^\circ30'$; stage 2: $\rho = -0.12$; $\alpha = 26^\circ45'$. The tips of blades in all stages were connected by a shroud. The same nozzle system with cylindrical blades having radial outlet edges was used in testing all stages.

Card 1/2 UDC: 621.165.001.5

L 08686-67
ACC NR: AP6032187

The effect of the degree of reaction on the efficiency of a stage, was established by direct measurement of variable losses. The results of the testing of the perfcrmance characteristics are presented as well as diagrams illustrating the behavior of following stage parameters: the dependence of the internal efficiency on velocity-components for a certain radial clearance; the effect of the velocity-components on the degree of reaction; and a comparsion of stage efficiencies, of losses, and of velocity coefficients for various degrees of reaction. The interdependence of the degree of reaction (at the roots and the tips of blades) and the losses associated with the gas suction through the axial root-clearance gap was investigated on stage 3 at $M = 0.8$, $Re = 8 \times 10^5$, $\rho = -0.24$, with a root gap of 4 mm. The results show that the reactivity increases with increasing intensity of the suction; experimental formulas for determining the degrees of reaction are derived. The dependence of efficiency on suction, and of the losses caused by the suction on the degree of reactivity are shown in diagrams and are analyzed. An experimental formula for determining the losses caused by suction is also given. Orig. art. has: 7 figures and 3 formulas.

SUB CODE: 21/ SUBM DATE: none/ ORIG REF: 015/

Card 2/2

S/081/62/000/005/004/112
B158/B110

AUTHORS: Shvedov, V. P., Strunin, A. V.

TITLE: Investigation of coprecipitation of yttrium with cerium pyrophosphate

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 5, 1962, 42, abstract 5B249 (Tr. Leningr. tekhnol. in-ta im. Lensoveta, no. 55, 1961, 102 - 107)

TEXT: Coprecipitation of Y with Ce pyrophosphate is studied both on prepared Ce pyrophosphate precipitates and with formation of Ce pyrophosphate from a solution containing Y. A study of the rate at which equilibrium is established with the prepared Ce pyrophosphate precipitate and of the effect on coprecipitation of overcharging of the Ce pyrophosphate surface and of the presence in the solution of impurity ions has shown that coprecipitation of Y occurs by way of secondary adsorption. The degree of coprecipitation of the Ce pyrophosphate increases from 2 to 93% with increase in pH from 1 to 4.5 (coprecipitation on prepared pyrophosphate) and from 10 to 98% with increase in pH from 1 to 2.5 (coprecipitation from

Card 1/2

solution with Y). At low pH values ($\sim$ 1.4) temperature does not affect coprecipitation. With increase in pH, the degree of coprecipitation increases with temperature. Increase in Y concentration causes a reduction in its coprecipitation. Addition of excess $Na_4P_2O_7$ initially increases coprecipitation, then causes its reduction (complex formation).
[Abstracter's note: Complete translation.]

ACCESSION NR: AP4012084 S/0020/64/154/002/0321/0324

AUTHOR: Strunin, B. M.

TITLE: The path length and probable stoppage of dislocations in face-centered cubic crystals.

SOURCE: AN SSSR. Doklady*, v. 154, no. 2, 1964, 321-324

TOPIC TAGS: crystal deformation, dislocation, slippage, slip rate, seesile dislocation, crystal orientation, mobile dislocation, copper crystal, nickel crystal, face-centered crystal

ABSTRACT: A number of mechanisms designed to stop the dislocations in face-centered cubic crystals is proposed in this article. The characteristic feature of face-centered cubic crystals is a close relationship between the deformation curves and the crystal orientation. It is natural to assume, therefore, that the stoppage of the dislocations in the primary slippage system of the crystals is associated with the incipient slippage in the intersecting secondary systems, that is with the dislocation interaction in the intersecting

Card 1/2

ACCESSION NR: AP4012084

slippage systems. The physical mechanism and the nature of the dislocation sources in face-centered cubic crystals are still not very clear. It has been established that in the course of deformation a number of sources produce small dislocations. In view of the heterogeneous nature of the dislocation structure of the crystal, the different contents of impurities and inclusions and different surface defects, the type of dislocation varies from source to source and is therefore considered a random variable.

"The author is grateful to V. L. Indenbom for his useful discussion of the manuscript."

Orig. art. has: 2 figures and 8 formulas.

ASSOCIATION: None

SUBMITTED: 07Jun63 DATE ACQ: 14Feb64 ENCL: 00

SUB CODE: PH NR REF SOV: 003 OTHER: 018

Card 2/2

SOV/20-125-4-27/74

18(7)
AUTHOR: Strunin, B. M.

TITLE: On the Statistical Theory of the Tension of Metals (K statisticheskoy teorii rastyazheniya metallov)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 125, Nr 4, pp 790-793 (USSR)

ABSTRACT: The entire volume under stress is subdivided into microvolumes (volumes of the type Ω) the magnitude of which is limited downwards by the demand that the components of the stress tensor in them are of the form $\sigma_1 = S$, where S denotes the average real stress, and where $\sigma_2 = 0$ and $\sigma_3 = 0$ hold , i.e. the macro-state of stress in the volumes Ω must be linear. Apparently the volume Ω must be large compared to the dimensions of a single grain in a real polycrystalline material. Let it be assumed that the material behaves in the same manner during deformation in different volumes Ω. The deformation process is investigated from the beginning of load onward. With increasing tensile stress the work of the external forces in volume Ω goes over into the elastic potential energy of the distortions of the crystal lattice in the volumes ω, for

Card 1/4

volume Ω is subdivided into elements ω, the magnitude of which is limited in the upward direction by the demand that a homogeneous stressed state exist within ω, i.e. there must be no stress gradients during the entire deformation process up to the occurrence of fracture. The deformation process will be completely determined as soon as the family of the functions $u_\varepsilon(x)$ of the densities of the probability destribution of the elastic potential energy will have been found for the interval of the values of parameter ε, which are of interest in the present case. This investigation is, by the way, carried out at fixed conditions of stress. The mathematical model of the material subjected to deformation consists of a family of normal distributions which correspond to a certain interval of the values of parameter ε. As soon as the elastic potential energy exceeds the value necessary for bringing about a plastic deformation only within a certain part of the elements ω of the volume Ω, the first irreversible changes occur in the volume Ω. Next, the condition for the occurrence of a plastic deformation are written down. That part of energy which is eliminated owing to the completion of elastic distortions as a result of plastic deformation is used up for

solidification, and the remaining energy is transformed into heat. The calculations carried out in this paper show that equilibrium is established in the case of fixed conditions of load as a result of interaction between the local processes of solidification and de-solidification as well as owing to a variation of the degree of inhomogeneity of the elastic potential energy in the volume Ω. Resistance against deformation is due to internal forces which, in turn, are due to elastic deformations. During plastic flow a state is produced in which in some elements ω of the volume Ω the ability of causing plastic deformation is exhausted, and elastic potential energy is sufficiently high for the purpose of stripping of interatomic bonds and destroying the volume ω. This energy value is here described as the potential energy of the fracture. Equations are then derived for the determination of fracture of the elements ω of the volume Ω. The here discussed mathematical model renders it possible to analyze the behavior of real materials at arbitrary conditions of stress as long as the macro-stress state is linear. There are 11 references, 10 of which are Soviet.

80533
S/126/60/009/05/016/025
E073/E335

18.8200
AUTHOR: Strunin, B.M.

TITLE: On the Nonuniformity of the Plastic Deformation in Tension

PERIODICAL: Fizika metallov i metallovedeniye, 1960, Vol 9, Nr 5, pp 751 - 757 (USSR)

ABSTRACT: Investigations of Chechulin (Ref 4) have shown that with increasing average relative deformation the degree of non-uniformity of the deformation in the grains across the section will increase for all materials investigated. However, Oding and Ivanova (Ref 2) arrived at the opposite conclusion, namely, that "the local nature of the plastic deformation of the investigated grades of steel decreases with increasing deformation". Although these authors investigated deformation in volumes of differing sizes, the difference in the conclusions can be explained, on the one hand, by the use of incorrect methods (Ref 4) and, on the other, by unsuitable choice of a coefficient from the statistical point of view. The author of this paper used the same technique as was used by Oding and Ivanova (Ref 2) and Boas and Hargreaves (Ref 3). He investigated statistically the relations between the observed

Card1/4

80533
S/126/60/009/05/016/025
E073/E335

On the Nonuniformity of the Plastic Deformation in Tension

nonuniformity of the plastic deformation on sections of a fixed length of the specimen under tension (not macro-nonuniformities) and the resulting nonuniformity of the deformation in the various microvolumes, which form the section of the specimen on which the local elongations were measured. The author used the methods of the theory of probability and of mathematical statistics. He justifies using, as a quantitative characteristic of the nonuniformity of the deformation, the mean square deviation between the individual elongations and shows that the use of this characteristic is more favourable than the characteristics proposed by other authors. As a result of statistical analysis, the relation was derived of the variance between the relative elongations at sections of the length ℓ_o on the value of ℓ_o. For the purpose of experimental verification of the derived relation, Eq (6) (p 753), the author investigated experimentally the nonuniformity of the plastic deformation on specimens with the bases ℓ_o = 0.2, 0.4, 2, 5 and 10 mm thick of an aluminium alloy

Card 2/4

On the Nonuniformity of the Plastic Deformation in Tension

containing 6.34% Mg, 0.50% Mn, 0.28% Fe, 0.17% Si, rest Al. The results of these experiments, as well as the results published by Rybalko (Ref 11) are in satisfactory agreement with the here derived relations. The work of Rybalko (Ref 11) confirms experimentally the fact that the polygon of the frequency of elongations tends to a density curve of normal distribution, which was obtained by the author of this paper on the basis of the theorem of the theory of probability. The relation between the mean square divergence of the elongations from the average deformation was determined experimentally. It is shown that, initially, the nonuniformity in the deformation decreases but, later on, the nonuniformity increases gradually, right up to the instant of failure of the specimen. The results show that investigation of the nonuniformity of the plastic deformation can be applied for studying the character of the propagation of the plastic deformation during loading under conditions of creep, stress relaxation, cyclic tension, etc.

80533

S/126/60/009/05/016/025
E073/E335

On the Nonuniformity of the Plastic Deformation in Tension

There are 2 figures and 12 references, 11 of which are Soviet and 1 is English.

SUBMITTED: August 3, 1959

Card 4/4

STRUNIN, B.M.

Theory of the dimensional effect under tensile stress. Zav.lab. 26 no.9:1123-1128 '60. (MIRA 13:9)
(Strength of materials)
(Deformations (Mechanics))

18.8200

~~16 (1)~~

AUTHOR: Strunin, B. M.

SOV/20-130-2-18/69

TITLE: On the Inhomogeneity of Plastic Deformation Due to Elongation

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol 130, Nr 2, pp 310 - 313 (USSR)

ABSTRACT: In the present investigation indentations of a diamond pyramid were applied to the specimen to be stretched at distances l_o (on a straight line). The deformation of the individual regions of the specimen was estimated from the variation in distance between the indentations. The regions were subdivided into the volumes Ω, and the latter into the elements ω. $\delta(l_o,\varepsilon)$, $\delta(\Omega,\varepsilon)$, and $\delta(\omega,\varepsilon)$ denote the relative extensions of the fixed part of the length l_o, the volume Ω, and the volume ω in the mean relative deformation ε of the whole specimen. It holds that

$$\varepsilon = \frac{l_o}{L_o}\sum \delta(l_o,\varepsilon);\ \delta(l_o,\varepsilon) = \frac{l(\Omega)}{l_o}\sum \delta(\Omega,\varepsilon);\ \delta(\Omega,\varepsilon) =$$

$$= \frac{l(\omega)}{l(\Omega)}\sum \delta(\omega,\varepsilon).$$ L_o denotes the length of the stressed part of

Card 1/4

the specimen, $l(\Omega)$ and $l(\omega)$ the mean linear dimensions of the volumes Ω and ω. From the above equations it follows that $\delta(l_o, \varepsilon) = \frac{l(\omega)}{l_o} \sum \delta(\omega, \varepsilon)$. Here, summation is carried out over those elements of ω of which part l_o is composed. $D^2\delta(l_o, \varepsilon) = \frac{l(\omega)}{l_o} D^2\delta(\omega, \varepsilon)$ was found for the spread of the random quantity $\delta(\omega, \varepsilon)$. With one and the same microinhomogeneity of deformations the observational value of macroinhomogeneity $D^2\delta(l_o, \varepsilon)$ depends on l_o. The greater the ratio $l_o/l(\omega)$, i.e., the greater the averaging, the smaller is $D^2\delta(l_o, \varepsilon)$. The degree of inhomogeneity observed increases with a fixed value of l_o with increasing $l(\omega)$, i.e., the greater the block dimensions, the more inhomogeneously flows the metal. The author investigated the inhomogeneities of plastic deformation on the bases l_o = 0.2; 0.4; 2; 5, and 10 mm in order to test the last-mentioned equation experimentally.

Card 2/4

On the Inhomogeneity of Plastic Deformation Due to Elongation

SOV/20-130-2-18/69

The specimens were composed of the alloy AMG-6 (6.34% Mg, 0.50% Mn, 0.28% Fe, 0.17% Si, 0.13% Ti, and 92.58% Al). The production of the specimens and the experiments are briefly described. The results of experiments and calculations are in close agreement. The results obtained by the author were further confirmed by studying pure aluminum (99.99%). Moreover, it was found that - with an increase of $l_0/l(\omega)$ - the polygon of frequencies tends toward the density of normal distribution. With a certain mean deformation, the fixed degree of deformation inhomogeneities is determined by (a) the localization of deformation and (b) by the local strengthening and the diminution of inhomogeneity of the stressed state. This depends on the value of the acting stress and the kind of load applied. First, the degree of deformation inhomogeneities decreases, that is, first process (b) predominates, and then process (a) becomes superior, which leads to a gradual increase in inhomogeneity of the deformed state. There are 2 figures and 12 references, 11 of which are Soviet.

Card 3/4

On the Inhomogeneity of Plastic Deformation Due to Elongation SOV/20-130-2-18/69

PRESENTED: July 23, 1959, by P. A. Rebinder, Academician

SUBMITTED: July 17, 1959

Card 4/4

STRUNIN B.M.

Statistical theory of metal fracture under the effect of tension. Fiz.met.i metalloved. 13 no.1:33-42 Ja '62. (MIRA 15:3)
(Metals--Testing) (Metallography)

ACCESSION NR: AP4034903 S/0181/64/006/005/1281/1293

AUTHOR: Strunin, B. M.

TITLE: On the theory of light slip in crystals

SOURCE: Fizika tverdogo tela, v. 6, no. 5, 1964, 1281-1293

TOPIC TAGS: crystal deformation, critical stress, probability theory, distribution function, crystal orientation, dislocation effect, crystal lattice constant, aluminum

ABSTRACT: The author uses probabilistic and statistical methods for studying stress and deformation in crystals undergoing light slip. A theory is proposed for the depletion of the final number of sources with a linear function of initial stress distribution. The surface distribution and the mean value of stress in crystals at the inclusion of sources are calculated for successively increasing values of the initial stress, and expressions are obtained giving the effect of crystal size on the value of the critical shear stress. The relation between the number of dislocations and the probability of their stopping in the plane of slip was studied. Expressions are obtained for this probability for cases where the stopping occurred as a result of the interaction of migration dislocation at the slip interface. The

Card 1/3

ACCESSION NR: AP4034903

dependence of the coefficient of hardening on the size and orientation of the crystals was studied. The following formula was obtained for the surface distribution of stress

$$\varphi_1(x, NN_1) = \frac{1}{\Gamma(\nu)} t^{\nu-1} e^{-t} \frac{dt}{dx}, \text{ где } t = \alpha N N_1 \left(\frac{x}{\tau_0} - 1\right).$$

Here $N = \beta \pi$ where β is the number of sources per unit length, π is the perimeter of the stressed region, α is a constant, and N_1 is given by the formula: $N_1 = \frac{\sqrt{3} L \sin \chi}{a}$, where a is a lattice constant, χ the angle between the plane of slip and the crystal axis, and L the length of the working part of the crystal. The critical shear stress is given by the formula

$$\tau_1 = \tau_1(\nu_1, DL) = \tau_0 \left[1 + \frac{2\alpha\nu_1}{\pi\sqrt{3}\, a\beta DL\,(1 + \sin\chi)}\right],$$

where D is the diameter of the cylindrical crystal considered in this theory. The numerical results obtained from this theory are found to be in fair agreement with the experimental results of A. Ono (Proc. 3-d Intern. Congress Appl Mech., 2, 230, 1930). The author thanks V. L. Indenbom for valuable discussions and advice. Orig. art. has: 4 figures, 30 formulas, and 2 tables.

ASSOCIATION: none

Card 2/3.

ACCESSION NR: AP4034903

SUBMITTED: 30Sep63 ENCL: 00

SUB CODE: SS NO REF SOV: 005 OTHER: 032

Card 3/3

L 24448-65 EEC(b)-2/EWT(1)/T IJP(c)
ACCESSION NR: AP4046611 S/0181/64/006/010/3004/3015

AUTHOR: Strunin, B. M.

TITLE: On a statistical interpretation of the surface relief of deformed crystals

SOURCE: Fizika tverdogo tela, v. 6, no. 10, 1964, 3004-3015

TOPIC TAGS: crystal deformation, surface defect, surface property, statistical distribution, dislocation motion

ABSTRACT: The distributions of the dimensions of various elements of the surface relief of deformed crystals are considered together with the physical meaning of these distributions and their parameters. The purpose of investigation is to be able to determine the distribution from a relatively small number of measurements (compared with the number of measurements necessary to plot a frequency curve). Comparison of the theoretically obtained distributions with

Card 1/2

L 24448-65
ACCESSION NR: AP4046611

the experimental data shows that for sufficiently narrow deformation intervals the dimensions of the different surface-relief elements of deformed crystals have an exponential distribution whose parameter is the probability of the starting or the stopping of dislocation motion. The dimensions can ultimately be represented by a sum of exponentially distributed random quantities, thus evidencing constancy of the probability of the start and stopping of the motion of the dislocations that forms the relief of the surface in different volume elements of the crystals. The calculations are compared with experimental data on copper crystals. "The author is deeply grateful to V. L. Indenbom for interest in the work and for valuable advice." Orig. art. has: 7 figures and 22 formulas.

ASSOCIATION: None

SUBMITTED: 03Apr64 ENCL: 00

SUB CODE: SS NR REF SOV: 008 OTHER: 014

Card 2/2

L 47032-66 EWT(m)/EWP(w)/T/EWA(d)/ETI IJP(c) JD/JH
ACC NR: AT6024918 (A, N) SOURCE CODE: UR/2981/66/000/004/0085/0106

AUTHOR: Anisimova, N. V.; Archakova, Z. N.; Belyayev, S. Ye.; Danilov, Yu. S.; Kishkina, S. I.; Petrov, Ye. A.; Plekhanova, N. G.; Ponar'ina, T. K.; Radetskaya, E. M.; Strunin, B. M.

ORG: none

TITLE: Mechanical properties of VAD23 alloy

SOURCE: Alyuminiyevyye splavy, no. 4, 1966. Zharoprochnyye i vysokoprochnyye splavy (Heat resistant and high-strength alloys), 85-106

TOPIC TAGS: aluminum alloy, solid mechanical property / VAD23 aluminum alloy

ABSTRACT: Sections and sheets of VAD23 alloy were tested in the artificially aged state (16 hr at 170°C). From the standpoint of creep, stress-rupture strength and recovered strength, the properties of VAD23 are 20-25% higher than those of D16T under long-term performance conditions at 125-150°C. In compression at temperatures up to 150-175°C, the yield points of sheets and sections of VAD23 are 10-20% higher than in extension. From the standpoint of endurance and fatigue strength, VAD23 is not inferior to V95 alloy. VAD23 has a high sensitivity to notching and sharp cracks; sheets of VAD23 alloy display a high sensitivity to notching and cracking as compared to pressed semifinished products. Orig. art. has: 12 figures and 14 tables.

SUB CODE: 11/ SUBM DATE: none / ORIG REF: 003/ OTH REF: 005

Card 1/1

30168
S/062/61/000/012/009/012
B117/B147

5 3700

AUTHORS: Zakharkin, L. I., Okhlobystin, O. Yu., and Strunin, B. N.

TITLE: Synthesis of organic beryllium compounds

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 12, 1961, 2254

TEXT: In the present "Letter to the Editor", the authors report on studies of the noncatalytic interaction of metals of the 2nd group with halogen alkyls. Powdery beryllium was found to react with halogen alkyls even in total absence of ether or any other catalyst. With sufficient duration of the process, alkyl beryllium halides are obtained in satisfactory yield:

$$Be + RHal \xrightarrow[12 - 60\ hr]{130^{\circ}C} RBeHal$$

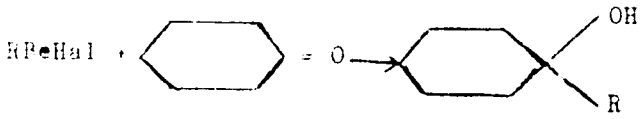
$R = C_2H_5$, Hal = I; $R = C_4H_9$, Hal = Br, I; $R = C_5H_{11}$, C_8H_{17}, Hal = I.

Similar to alkyl magnesium halides, alkyl beryllium halides are insoluble, and separate as a precipitate during the reaction. Analysis shows that

Card 1/3

Synthesis of organic beryllium...

the yield of butyl beryllium iodide reaches 65-70% of the theoretical amount (130°C, 12 hr, without solvent). During reaction of the obtained alkyl beryllium halides with cyclohexanol the corresponding 1-alkyl cyclohexanols are formed in a good yield:



R = C_2H_5, boiling point 61°C (10 mm Hg), n_D^{25} 1.4623; d_4^{25} 0.9226; R = C_4H_9, boiling point 90 - 91°C (10 mm Hg); n_D^{25} 1.4635; d_4^{25} 0.9141; R = C_5H_{11}, boiling point 97°C (5 mm Hg); n_D^{20} 1.4667; d_4^{20} 0.9162; R = C_8H_{17}, boiling point 130 - 131°C (10 mm Hg); n_D^{25} 1.4610; d_4^{25} 0.8633. [Abstracter's note: Essentially complete translation.] There is 1 non-Soviet reference The reference to the English-language publication reads as follows: H. Gilman, W. Schulze, J. Amer. Chem. Soc. 49, 2904 (1927)

Card 2/3

30168
S/062/61/000/012/009/012
B117/B147

Synthesis of organic beryllium...

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR (Institute of Elemental Organic Compounds of the Academy of Sciences USSR)

SUBMITTED: October 26, 1961

X

Card 3/3

ZAKHARKIN, L.I.; OKHLOBYSTIN, O.Yu.; STRUNIN, B.N.

Organomagnesium synthesis of heteroörganic compounds in an ether-free medium. Izv. AN SSSR Otd.khim.nauk no.12:2254-2255 D '61. (MIRA 14:11)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Magnesium organic compounds)

[illegible], Nik.A.; STRUNIN, B.I.

Sulfonation of acyl and carbomethoxy derivatives of ferrocene.
Dokl. AN SSSR 137 no. 1:106-108 Mr-Ap '61. (MIRA 14:2)

1. Moskovskiy gosudarstvenyy universitet im. M.V. Lomonosova.
Predstavleno akademikom A.N. Nesmeyanovym.
(Ferrocene) (Sulfonation)

S/062/62/000/011/007/021
B101/B144

AUTHORS: Zakharkin, L. I., Okhlobystin, O. Yu., and Strunin, B. N.

TITLE: Use of organomagnesium compounds for synthesizing organic derivatives of the elements of groups II-V in non-ethereal medium

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 11, 1962, 2002 - 2008

TEXT: It is shown that organo-magnesium compounds are easily synthesized from Mg and alkyl halides in yields of 80-92%, even without the usual Grignard catalysts (ether, amines, etc.). Halides of the elements of groups II-V are easily alkylated with the resulting organomagnesium compounds. The reaction was performed in N_2 by addition of alkyl or aryl halides RX (R = C_2H_5 to C_9H_{19}, C_6H_5, p-$CH_3C_6H_4$; X = Cl, Br, I) to magnesium chips and, as a rule, by utilizing the developed heat for the reaction with the gradually added halide (or oxyhalide) or Hg, B, Al, Si, Ge, Sn, P, As, Sb. The further treatment is carried out as in the usual organomagnesium synthesis. In some cases alkyl and element halides were made to react

Card 1/3

Use of organomagnesium compounds...

simultaneously with Mg. By choosing the appropriate solvents (heptane, isooctane, decalin, dodecane), work can be done at high concentrations and optimum temperature. The following syntheses were made: tetraethyl tin; triethyl tin fluoride was precipitated with KF from the triethyl tin halides formed as by-products; tri-n-butyl boron, yield 85%; tetra-n-butyl silane, yield 79%; methyl-(n-butyl)-phenyl silane from Mg with n-butyl chloride in heptane, and addition of $(CH_3)(C_6H_5)SiCl_2$, yield 85%, b.p. 125°C/4 mm Hg, n_D^{20} 1.4930, d_4^{20} 0.8749; tetra-n-butyl tin, yield 90%; di-n-butyl tin oxide (addition of $SnCl_4$ at -10°C), yield 65.3%; tri-n-butyl germanium chloride, yield 60%, b.p. 104°C/1 mm Hg; n_D^{20} 1.4638, d_4^{20} 1.0252; butyl dichloro phosphine (addition of PCl_3 at -70°C), yield 45%, tri-n-butyl phosphine, yield 66%; tributyl phosphine oxide, yield 84.4%; tri-n-butyl arsine, yield 80.7%; tri-n-butyl stibine, yield 73%; triisoamyl aluminum, yield 87%, b.p. 152°C/1 mm Hg; triisoamyl tin fluoride (reaction with $SnCl_4$, precipitation with KF), yield 82%; hexyl dichloro phosphine (addition of PCl_3 at -70°C), yield 46%; trihexyl phosphine, yield 63%;

Card 2/3

n-octyl mercury iodide, yield 85%, m.p. 96°C; trioctyl phospine oxide: (a) from magnsium and with simultaneous addition of n-octyl iodide and $POCl_3$ in i-octane, yield 85%; (b) from iodineactivated Mg and n-octyl iodide in i-octane, and with addition of $POCl_3$ after cooling to 10°C, yield 87%; tri-n-nonyl phosphine oxide, yield 92.4%, m.p. 35-36°C, b.p. 235-240°C/4 mm Hg; triphenyl aluminum, yield 75.3%; tetraphenyl tin, yield 74%; triphenyl phosphine, yield 72.3%; triphenyl phospine oxide, yield 92.2%; methyl-di-p-tolyl phosphine oxide, yield 80%; triphenyl arsine, yield 75.7%. The most important English-language reference is: D. Bryce-Smith, G. F. Cox, J. Chem. Soc., 1958, 1050.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR (Institute of Elemental Organic Compounds of the Academy of Sciences USSR)

SUBMITTED: March 22, 1962

Card 3/3

ZHIGAREV, L.I.; OKHLOBYSTIN, O.Yu.; STRUNIN, B.N.

Synthesis of organometallic compounds via organomagnesium compounds in an ether-free medium. Dokl. AN SSSR. 144 no.6:1299-1302 Je '62. (MIRA 15:6)

1. Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR. Predstavleno akad. A.N.Nesmeyanovym.
(Organometallic compounds) (Magnesium organic compounds)

ZAKHARKIN, L.I.; OKHLOBYSTIN, O.Yu.; STRUNIN, B.N.

Preparation of alkyl magnesium halides from primary alkyl halides and magnesium in a hydrocarbon medium. Dokl. AN SSSR 147 no.1:108-110 N '62. (MIRA 15:11)

1. Institut elementoorganicheskikh soyedineniy AN SSSR. Predstavleno akademikom I.L. Knunyantsem.

(Magnesium organic compounds)
(Alkyl halides) (Hydrocarbons)

STRUNIN, B.N.; OKHLOBYSTIN, O.Yu.; ZAKHARKIN, L.I.

Organomagnesium synthesis of some organophosphorus compounds in ester-free medium. Izv.AN SSSR.Ser.khim. no.8:1373-1376 Ag '63. (MIRA 16:9)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Phosphorus organic compounds) (Grignard reagents)

ZAKHARKIN, L.I.; OKHLOBYSTIN, O.Yu.; STRUNIN, B.N.

Synthesis of organotin compounds by means of aluminum alkyls. Zhur. prikl. khim. 36 no.9:2034-2038 D '63. (MIRA 17:1)

STRUNIN, B.M.

Path length and stopping probability of dislocations in face-centered cubic crystals. Dokl. AN SSSR 154 no.2: 321-324 Ja'64. (MIRA 17:2)

1. Predstavleno akademikom G.V. Kurdyumovym.

ZAYTSEV, A.P., red.; BORZOV, K.V., red.; BOGUSLAVSKIY, Yu.K., red.; BELOUSOV, V.G., red.; VODAKHOV, L.A., red.; IZRAITEL', S.A., red.; KOL', A.N., red.; LISYUK, S.S., red.; MOISEYEV, S.L., red.; MEL'NIKOV, N.V., red.; MOROZOV, V.P., red.; MUDROV, P.A., red.; POLYAKOVA, Z.K., red.; PODERNI, Yu.S., red.; POLESIN, Ya.L., red.; POKROVSKIY, L.A., red.; SLASTUNOV, V.G., red.; SKURAT, V.K., red.; STRUNIN, M.A., red.; SOKOLOVSKIY, M.M., red.; FEOKTISTOV, A.T., red.; CHESNOKOV, M.M., red.; SHUKHOV, A.N., red.; YAMSHCHIKOV, S.M., red.; BYKHOVSKAYA, S.N., red.izd-va; BERESLAVSKAYA, L.Sh., tekhn.red.

[Unified safety regulations in open-cut mining] Edinye pravila bezopasnosti pri razrabotke mestorozhdenii poleznykh iskopaemykh otkrytym sposobom. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po gornomu delu, 1960. 61 p. (MIRA 13:7)

1. Russia (1917- R.S.F.S.R.) Gosudarstvennyi komitet po nadzoru za bezopasnym vedeniyem rabot v promyshlennosti i gornomu nadzoru. (Strip mining--Safety measures)

PODREZ, Nikolay Adamovich; STRUNIN, N.D., redaktor; SENCHILO, K.K., tekhnicheskiy redaktor

[The use of physical exercise and massage in the treatment of obesity] Primenenie fizicheskikh uprazhnenii i massazha pri ozhirenii. Moskva, Gos. izd-vo med. lit-ry, 1956. 73 p. (MLRA 9:10)
(CORPULENCE) (MASSAGE)

ACC NR: AP6025582 (N) SOURCE CODE: UR/0413/66/000/013/0011/0011

INVENTOR: Sizov, Ye. S.; Sizova, K. G.; Strunin, N. M.; Razumilov, V. D.

ORG: None

TITLE: A die for drawing sheet metal parts. Class 7, No. 183173

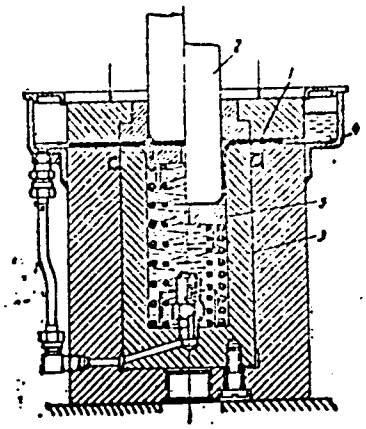
SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 13, 1966, 11

TOPIC TAGS: sheet metal, metal drawing, die

ABSTRACT: This Author's Certificate introduces a die for drawing sheet metal parts by using hydraulic pressure. The unit contains a punch, a fluid-filled female die and a clamping device. The unit is designed for hydrodynamic lubricating conditions and blocking off the section of the blank subject to damage. The die is equipped with an annular reservoir with a bottom flush with the female die surface. A knockout tool is placed in the working area with a diameter greater than that of the finished part. This knockout tool has apertures for transmitting fluid from the female die area to the annular reservoir, which are connected by a pipeline.

Card 1/2 UDC; 621.983.32

ACC NR: AP6025582



1-blank; 2-punch; 3-female die; 4-annular reservoir

SUB CODE: 13/ SUBM DATE: 12Jul63

Card 2/2

ACC NR: AP6029013 SOURCE CODE: UR/0413/66/000/014/0013/0014

INVENTOR: Sizov, Ye. S.; Strunin, N. M.; Razumilov, V. D.; Kozlov, I. V.; Sizova, K. G.

ORG: None

TITLE: Double action hydraulic press. Class 7, No. 183709

SOURCE: Izobret prom obraz tov zn, no. 14, 1966, 13-14

TOPIC TAGS: hydraulic equipment, hydraulic cylinder, die, metal drawing

ABSTRACT: This Author's Certificate introduces a double action hydraulic press equipped with a hydraulic cylinder control system with distribution valves. These hydraulic cylinders transmit power both to the punch and the clamping jig. The unit is designed for transmitting pulsating movements with a given force and pulsation amplitude to the clamping device to provide deeper drawing. The hydraulic cylinder which transmits power to the clamping device has a hollow piston rod. This rod is mounted on the rod of a piston connected to the punch and is located in a hydraulic cylinder interacting with the distribution valves by means of an electrocontact pressure gauge in the hydraulic system and a terminal circuit breaker rigidly mounted on the press frame. The distribution valves switch fluid delivery between the cavities in the

Card 1/2 UDC; 621.983.32.06;621.226

ACC NR: AP6029013

hydraulic cylinder above and below the piston. The ratio between the piston areas is calculated to provide pressure for the clamping jig which is several times the punch pressure.

SUB CODE: 13/ SUBM DATE: 25Mar63

Card 2/2

ACC NR: AP6035820 (N) SOURCE CODE: UR/0413/66/000/020/0020/0021

INVENTOR: Sizov, Ye. S.; Polyakov, S. I.; Sizova, K. G.; Strunin, N. M.

ORG: none

TITLE: Sheet metal forming unit. Class 7, No. 186957.

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 20, 1966, 20-21

TOPIC TAGS: metal forming, sheet metal, ~~forming~~ hydrostatic pressure, ~~metal forming~~ metal forming ~~unit~~ press

ABSTRACT: This Author Certificate introduces a unit for sheet metal forming. The unit has a chamber which can be evacuated or filled with inert gas, a die, and a pressure container (Fig. 1). To form low-ductility metals, the unit is provided with an attachment for heating the female die, the blank, and the material which plays the part of the male die, all of which are moved into the container by the rod of a hydraulic cylinder installed in the housing coaxially with the container. In a variant, the heating equipment is located outside the container and consists of two semicylinders with heaters enveloping the dies and the blank during the pre-

Card 1/2 UDC: 621.983.32.06

ACC NR: AP6035820

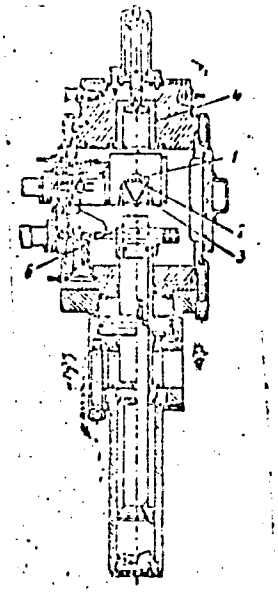


Fig. 1. Metal forming unit

1 - Male die; 2 - blank; 3 - female die; 4 - container; 5 - attachments; 6 - hydraulic cylinder rod.

heating and opening, when dies and blank are pushed into the container. Orig. art. has: 1 figure. [ND]

SUB CODE: 13/ SUBM DATE: 06Jan64/ ATD PRESS: 5109

Card 2/2

STRUNIN, N.M.

Analytic method for determining the profile of helical groove in an arbitrary cross section in when the initial profile is given in an axial or face cross section. Stan. i instr. 34 no.6:25-26 Je '63. (MIRA 16:7)

(Machinery—Design and construction)

SOLOV'YEV, A.S.; STRUNIN, C.B.

Industrial testing of braking devices for mine hoisting machines. Shor.nauch.rab.stud. LGI no.2:125-134 '57.
(MIRA 13:4)

1. Leningradskiy ordenov Lenina i Trudovogo Krasnogo Znameni gornyy institut im. G.V.Plekhanova. Predstavleno dotsentom L.P.Severinym.
(Hoisting machinery--Brakes)

BOGOMOLOV, V.N.; ILISAVSKIY, Yu.V.; KORNFEL'D, M.; SOCHAVA, L.S.; STRUNIN, B.I.

Germanium bolometers with short relaxation time. Zhur.tekh. fiz. 27 no.1:213-214 Ja '57. (MLRA 10:2)

1. Institut poluprovodnikov AN SSSR, Leningrad.
(Bolometer)

STRUNIN, R.I.; BAKALOV, S.A.

Use of resistance thermometers for telemetering the temperatures of soil and of construction elements. Trudy Gos.inst. po proek. mor. por. i sudorem. pred. no.6:56-70 '59. (MIRA 14:3)
(Thermometers) (Telemetering)(Soil temperature)

89572

S/076/61/035/002/006/015
B124/B201

11.8200

AUTHORS: Dubovitskiy, F. I., Strunin, V. A., Manelis, G. B., and Merzhanov, A. G.

TITLE: Thermal decomposition of tetryl at varying m/V values

PERIODICAL: Zhurnal fizicheskoy khimii, v. 35, no. 2, 1961, 306-313

TEXT: A. Lukin and S. Z. Roginskiy (Ref. 5: Acta chem.-phys. USSR, 2,8, 1935) found a critical ratio to exist between the weight m and the volume V of the reaction vessel in tetryl (2,4,6-trinitro phenyl methyl nitramine), in which the slow decomposition passes over into an explosion under the promoting action of various additions (NO_2 et al.). An extensive study has been made of the kinetic rules governing the isothermal decomposition of molten tetryl as a function of the m/V ratio. The reaction concerned was examined in a device made from stainless steel, as diagrammatically shown in Fig. 1. The pressure rise was measured with the aid of a thin membrane made of stainless steel to which tensometer 5 was fastened. The change of resistance of 5 was determined by a ГПЗ-2 (GPZ-2)

Card 1/12

galvanometer inserted into the diagonal of the bridge. The measurement was made by the compensation principle. The membrane was brought back to zero position by introducing nitrogen from bomb 6 into the compensator. The pressure rise was measured at given time intervals with the pressure gauges 7 and 8 connected to the compensator. Also a strain gauge was fastened onto the membrane, to serve as second arm of the bridge and for a compensation of temperature fluctuations. The clamp 4 (Fig. 2) was pressed onto sealings made of fluorine-containing synthetic material 3 between flanges 1 and 5, the tubes from the strain gauge were via tube 6 connected to the outer arms of the bridge. The minimum measurable pressure is 0.1 mm Hg, the reading accuracy on the mercury manometer $\pm$ 0.2 mm Hg. The gaseous products were analyzed for NO_2, NO, N_2O, CO, and CO_2. Samples were taken by means of traps 9 and 10 (Fig. 1) and cuvette 11. The kinetic curves of gas evolution at 150°C (Fig. 3) and 160°C (Fig. 4) in the coordinates: conversion degree η - time at various m/V values are given. The m/V maximum was about 44 times as large as the corresponding minimum; the maximum end pressure of the decomposition products was about 6000 mm Hg. The curves show that the reaction kinetics is practically independent of the mass of the substance, and that the decomposition

Thermal decomposition of tetryl...

rate increases at all temperatures with rising m/V. The percent content of NO_2, NO, and condensation products drops with increasing decomposition, while the percentage of CO_2 and N_2 increases somewhat toward the end of the reaction, and the CO content remains practically unchanged (Table 1). The change in the number of NO_2 and NO moles per mole of tetryl as a function of the conversion degree for various m/V at 150°C is given; k_1 is the constant of the monomolecular reaction, k_2' that of the autocatalytic reaction, and k_3 is a constant depending on m/V, in which connection $d\eta/dt = k_1(1 - \eta) + k_2'\eta(1 - \eta) + k_3\eta(1 - \eta) = k_1(1 - \eta) + k_2(1 - \eta)$, where $k_2 = k_2' + k_3$. The dependence of k_1 on m/V is shown in Fig. 7. The initial acceleration of the reaction is correlated with the course of the macroscopic stage of the reaction, which leads to the formation of a highly volatile product with a catalytic action. This process is inhibited after some time by the tetryl decomposition. The further acceleration does not depend on the volume of the reaction vessel, which is indicative of an autocatalysis by the final condensation products

Card 3/12

Thermal decomposition of tetryl...

(picric acid according to Hinshelwood). The effective values of the activation energy and of the factor of the exponential function in the Arrhenius equation were calculated from the rate constants (Table 3), the values obtained for k_1 being characteristic of the monomolecular decomposition, whereas an activation energy of 37 kcal/mole was found for k_2 with all m/V.

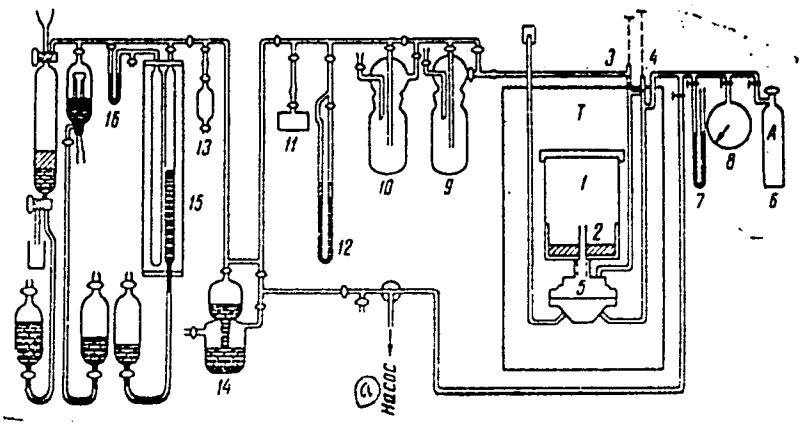
The explanation offered by the authors fits the respective hypothesis by N. M. Emanuel' (Ref. 10: Makroskopicheskiye stadii, osobaya rol' nachal'nogo perioda i mekhanizm deystviya ingibitorov i polozhitel'nykh katalizatorov v tsepnykh reaktsiyakh (Macroscopic stages, special role of the initial period and mechanism of the action of inhibitors and positive catalysts in chain reactions); Collection: "Voprosy khimicheskoy kinetiki, kataliza i reaktsionnoy sposobnosti" ("Problems of chemical kinetics, catalysis and reactivity"), Moscow, 1955, p. 117) on the significant role of the initial initiating stage. There are 9 figures, 3 tables, and 10 references: 4 Soviet-bloc and 6 non-Soviet-bloc. The references to the English language publications read as follows: M. A. Cook, M. J. Abegg, Industr.a.Engng. Chem. 48,1090,1956.

Card 4/12

S/076/61/035/002/006/015
B124/B201

ASSOCIATION: Akademiya nauk SSSR, Institut khimicheskoy fiziki
(Academy of Sciences USSR, Institute of Chemical Physics)

SUBMITTED: May 21, 1959



Legend to Fig. 1:
Overall diagram of the device. a) pump.

Card 5/ 12

L 22530-65 EWG(j)/EWT(m)/EPF(c)/EPF(n)-2/EPR/EWP(j)/T/EWP(t)/EWP(b) Pr-4/
Pc-4/Ps-4/Pu-4 IJP(c)/RPL RM/WW/JD/JWD
ACCESSION NR: AP5001601 S/0062/64/000/012/2226/2227

AUTHOR: Strunin, V. A.; Manelis, G. B.

TITLE: Effect of pressure on the kinetics of the thermal dissociation of ammonium perchlorate

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 12, 1964, 2226-2227

TOPIC TAGS: ammonium perchlorate, thermal dissociation, kinetics

ABSTRACT: The effect of 100 gage atmosphere pressure of an inert gas (nitrogen) on the kinetics of the thermal dissociation of ammonium perchlorate at 230 and 260 C was investigated. At 230 C the final weight loss at the high pressure was about 10% greater than at atmospheric pressure, but the reaction rate constants were practically the same. At 260C the weight losses were essentially the same regardless of pressure. Thus the kinetics of the thermal dissociation reaction of ammonium perchlorate were not changed under the effect of the inert gas pressure. Orig. art. has: 1 table and 4 figures

Card 1/2

L 22530-65
ACCESSION NR: AP5001601

ASSOCIATION: Institut khimicheskoy fiziki Akademii nauk SSSR (Institute of Chemical Physics Academy of Sciences SSSR)

SUBMITTED: 04May64 ENCL: 00 SUB CODE: GC, OP

NR REF SOV: 001 OTHER: 002

Card 2/2